

Abstract

A diode pumped solid state laser for producing a high aspect ratio beam comprises a diode pumping array (1) on a diode array mount (3) and optical means for imaging a pump light beam onto a substantially asymmetrical spot with a smooth intensity profile. The pump light beam is pumping a laser medium (4). Both the pump and the lasing mode have strong asymmetries. In combination with the right choice of laser medium (4), this results in high power laser performance. The axis of the pump light beam is adjustable by a simple adjusting means (110) to a defined plane or direction relative to a mounting frame (111) of a diode array pumping device (103). The adjusting means (110) compensates small tolerances on mounting of the diode array (1) and/or at least one optical element (2). The adjusting means include at least one wedged window (127). Because of this adjustment the axis of the light beam lies in a defined plane relative to the mounting frame (111) of the pumping device (103). Therefore the diode array pumping device (103) of a laser is replaceable without any further adjustment.

Fig. 13a

TOP SECRET - EYES ONLY